

WHAT IS CLAIMED IS:

1. A normally closed solenoid-operated valve having a cylindrical sleeve; a stationary element provided at one end of said stationary sleeve; a movable element slidably inserted in said sleeve to face said stationary element and provided at an external surface thereof with a communication groove which axially extends between axial opposite ends thereof for permitting the flow of operating fluid; and an electromagnetic coil for exciting said stationary element and said movable element; said solenoid-operated valve comprising:

a closed wall provided on at least one of a stationary element end surface of said stationary element facing said movable element and a movable element end surface of said movable element facing said stationary element for defining a damper chamber therein; and

a fixed throttle for making said damper chamber to communicate with said communication groove when said stationary element end surface and said movable element end surface close said damper chamber as a result of said movable element excited by said electromagnetic coil being moved toward said stationary element.

2. The solenoid-operated valve as set forth in Claim 1, wherein said closed wall is constituted by an annular shim which is interposed between said stationary element end surface and said movable element end surface for defining said damper chamber in an internal surface thereof; and wherein said fixed throttle is constituted by a dent groove provided at least one of said stationary element end surface and said movable element end surface for communication with said communication groove.

3. The solenoid-operated valve as set forth in Claim 2, wherein said dent groove is in communication with said communication groove through a clearance around said movable element end surface.

4. The solenoid-operated valve as set forth in Claim 1, wherein said closed wall is constituted by an annular shim which is interposed between said stationary element end surface and said movable element end surface for defining said damper chamber in an internal surface thereof; and wherein said fixed throttle is constituted by a part

where said annular shim does not overlap said communication groove.

5. The solenoid-operated valve as set forth in Claim 1, wherein said closed wall is constituted by an annular shim which is interposed between said stationary element end surface and said movable element end surface for defining said damper chamber in an internal surface thereof; and wherein said fixed throttle is constituted by a part of one end of said communication groove which part opens to said damper chamber within the internal surface of said close wall.

6. The solenoid-operated valve as set forth in Claim 1, wherein said closed wall is constituted by an annular convex portion formed on at least one of said stationary element end surface and said movable element end surface for defining a dent portion encircled by said annular convex portion as said damper chamber; and wherein said fixed throttle is formed by a dent groove provided across said annular convex portion to make said dent portion communicate with said communication groove.

7. The solenoid-operated valve as set forth in Claim 6, wherein said dent groove directly opens to said communication groove.